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THE MAJOR ACTIVITIES OF THE CENTER ARE REVIEWED. THE ADVISORY COMMITTEE MET FOR THE FOURTH TIME AND PROPOSED PROGRAM EMPHASES SUCH AS STUDIES RELATING TO THE JOB CORPS, THE DECLINING FARM POPULATION, THE PART-TIME STUDENT, SALARY LEVELS IN VOCATIONAL EDUCATION, AND HIGH SCHOOL VOCATIONAL EDUCATION, OVER 5,400 DOCUMENTS ARE NOW INDEXED AND HOUSED IN THE CENTER'S REFERENCE COLLECTION. THE STAFF PREPARES AND CIRCULATES PERIODIC BIBLIOGRAPHIES ON 18 GENERAL TOPICS, PREPARES BIBLIOGRAPHIES FOR INDIVIDUALS, AND DID 300 SPECIAL SEARCHES AND REPORTS DURING THE YEAR. AN EVALUATION OF THIS BIBLIOGRAPHIC SERVICE BY ITS USERS WAS COMPLETED. THE CENTER EMPLOYED EIGHT RESEARCH ASSISTANTS AND NINE PROJECT ASSISTANTS DURING THE YEAR, ESTABLISHED ITS FIRST INTERNSHIP, AND AWARDED TWO FELLOWSHIPS. THREE CONFERENCES WERE HELD--"CURRICULUM PROGRAMS IN ACTION--THEIR ADMINISTRATION AND EVALUATION," "THE ENCOURAGEMENT OF RESEARCH IN PREDOMINANTLY NEGRO UNIVERSITIES," AND "THE EDUCATION AND TRAINING OF RACIAL MINORITIES." THE CENTER INITIATED A SERIES OF PUBLICATIONS INCLUDING A PROFESSIONAL JOURNAL, A NEWSLETTER, A DETAILED PERIODIC REPORT OF ACTIVITIES, A REPRINT SERIES, CONFERENCE PROCEEDINGS, RESEARCH REPORTS, AND AN ASSORTMENT OF PUBLICATIONS DESCRIBING IN DETAIL THE ACQUISITIONS, BIBLIOGRAPHIES, AND SERVICES OF THE REFERENCE UNIT. THIRTY CENTER PROJECTS ARE INDEXED UNDER THE HEADINGS--"APPRAISING THE EFFECTIVENESS OF VOCATIONAL EDUCATION," "APPRENTICESHIP," "COUNSELING AND OCCUPATIONAL CHOICE," "TEACHER TRAINING AND RECRUITMENT," "LABOR MARKET ANALYSIS," AND "VOCATIONAL TRAINING FOR THE UNEMPLOYED," (EM)

Center for Studies in
VOCATIONAL & TECHNICAL EDUCATION

ED017684

# ANNUAL REPORT

November 1967

Industrial Relations
Research Institute

THE UNIVERSITY OF WISCONSIN
Madison, Wisconsin

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Center for Studies in

# V O C A T I O N A L  A N D  T E C H N I C A L  E D U C A T I O N

## A N N U A L  R E P O R T
November 1967

The Center for Studies in Vocational and Technical Education was established at The University of Wisconsin in the fall of 1964 under a five-year grant from The Ford Foundation.

# PREFACE

During this year, the Center moved substantially forward on all fronts of its proposed activities. The number of university staff members engaged in research activities sponsored by the Center increased; an evaluation of the services of the Reference Unit resulted in clear evidence of a needed and appreciated service being rendered to a growing number of users; conference and institute programs have brought nation-wide participation in discussions of important research problems, findings, and policy issues; the publications of the Center are in growing demand; and the first cadre of interns and fellows have been recruited to prepare or upgrade themselves for leadership positions in vocational-technical education. This report describes the progress and accomplishments of the many staff members who contributed to the goals of the Center during the school year, 1966-1967.

J. Kenneth Little and Gerald G. Somers
Co-Directors

Madison, Wisconsin

October 1967

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# I. THE CENTER STAFF

(as of September 15, 1967)

## Co-Directors

J. Kenneth Little, Professor of Educational Administration
Gerald G. Somers, Professor of Economics

## Administrative Associate

Richard W. Whinfield

## Associated Faculty Members

Michael T. Aiken, Assistant Professor of Sociology
Jack Barbash, Professor of Economics
Dean Bowles, Assistant Professor of Educational Administration
Charles Bridgman, Professor of Psychology
Alan C. Filley, Professor of Business
Walter Fogel, Visiting Professor of Industrial Relations
W. Lee Hansen, Professor of Economics and Educational Policy Studies
David B. Johnson, Professor and Chairman of Economics
Donald McIsaac, Assistant Professor of Educational Administration
Richard Perlman, Professor and Chairman of Economics, UW-Milwaukee
Philip A. Perrone, Associate Professor of Counseling and Behavioral Studies
Charles Perrow, Associate Professor of Sociology
LeRoy Peterson, Professor of Educational Administration
Kirk R. Petshek, Professor of Urban Affairs, UW-Milwaukee
James L. Stern, Professor of Economics
Murray A. Tucker, Lecturer, Economics and Industrial Relations

## Publications

Barbara Dennis, Editorial Associate
Srilekha Bell, Publications Assistant

## Conference Planning

Karen Krueger, Project Specialist

## Reference Unit

Robert Brodhagen, Search Analyst
David Marsh, Project Assistant
Virginia Wolters, Research Specialist
Gail Schlachter, Librarian
Tai Oh, Acquisitions
Leo Nevala, Indexer
Lachman Advani, Indexer
Susan Dominic, Indexer
Fred Pumper, Indexer

Research and Project Assistants

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James Jacobs
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Lucian Gatewood
Morley Gunderson
Arthur Noonan
Edith Healt

Clerical

Mildred Hammes, Secretary
Shirley Rabideau, Bookkeeper
Sandra Offerdahl, Secretary
Diane Burke, Typist

## II. THE ADVISORY COMMITTEE

The Advisory Committee of the Center for Studies in Vocational and Technical Education gives guidance and direction to the Center staff in its programs of data-gathering and dissemination, research, and instruction. The members of the Advisory Committee are:

Chairman

H. Edwin Young, President, The University of Maine

On-Campus Members

Lorentz H. Adolfson, Chancellor, University Centers, Madison
Erwin A. Gaumnitz, Dean, School of Business
J. Kenneth Little, Co-Director, Center for Studies in Vocational and Technical Education
Donald J. McCarty, Dean, School of Education
Donald R. McNeil, Chancellor, University Extension
Glenn S. Pound, Dean, College of Agriculture
William Sewell, Chancellor, The University of Wisconsin
Gerald G. Somers, Co-Director, Center for Studies in Vocational and Technical Education
Kurt F. Wendt, Dean, College of Engineering

Off-Campus Members

Curtis Aller, Director, Office of Manpower Policy, Evaluation, and Research, U. S. Department of Labor, Washington
Melvin L. Barlow Director, Division of Vocational Education, University of California, Los Angeles
Jacob F. Friedrick, President, Milwaukee Labor Council, Milwaukee
Clarence L. Greiber, Director, State Board of Vocational and Technical Education, Madison
George Howden, Division Engineer, Wisconsin Telephone Company, Appleton
Lawrence Hoyt, Director, Wausau Technical Institute
Gilbert Jautz, Principal, Boys' Technical and Trade School, Milwaukee
Charles E. Jones, Superintendent of Schools, Manitowoc
Alfon Mathison, Director, Technical Institute Program, Milwaukee Vocational, Technical, and Adult Education Schools
Edward J. Meade, Jr., Program Associate, The Ford Foundation (ex officio)
William J. Micheels, President, Stout State University, Menomonie
Angus B. Rothwell, Executive Director, Coordinating Committee on Higher Education in Wisconsin, Madison
William Shannon, Associate Executive Director, American Association of Junior Colleges, Washington, D. C.
Francis J. Walsh, Director, State Employment Service, Madison
Karl Werwath, President, Milwaukee School of Engineering

Previous Annual Reports of the Center have described the first three meetings of the Advisory Committee--February 23, 1965; December 1, 1965; and May 23, 1965.

The fourth Advisory Committee meeting, held in Madison on December 15, 1966, was opened by Dr. Little. Dr. Somers discussed the Center's proposal to the Office of Education for a follow-up evaluation of national vocational education. It was suggested that the Center pursue more action-oriented, as well as community-oriented, programs such as studies relating to the Job Corps, the declining farm population, the part-time student, salary levels in vocational education, and high school vocational education. A proposal that the Center delve into curriculum development for specific occupations was also considered.

John Helling reported on his study of South Milwaukee County's needs for vocational education programs. Norman Dufty, Visiting Professor from Western Australia, outlined proposed research to follow-up a previous project to relate differences in post-high school plans of high school seniors from communities with differing educational facilities, and to determine how well these plans were carried out.

The Center's publications were described, with emphasis on The Journal of Human Resources, the IRRI Report, and the Center's Newsletter.

Mr. Whinfield reported on conferences that had been held by the Center and discussed the plans for future conferences. He also discussed the Center's internship and fellowship programs, and in this area, it was decided to raise the stipend to make the programs more attractive to candidates.

Dr. Little reported that the Center's Reference Unit included 7,000 to 8,000 documents, 4,000 of which had been incorporated into the retrieval system. Bibliographies are regularly sent to approximately 1,200 people and 10 special requests are filled per week.

Cooperation with the State Board of Vocational, Technical, and Adult Education

Representatives of the State Board and the Center meet once or twice a month to discuss topics of mutual interest and to develop cooperative projects. Three projects have been undertaken: (1) A state-wide follow-up study of all graduates of full-time post-high school programs has been co-operatively developed with the staff of the State Board and the Wisconsin Vocational Director's Association (see section of this Report on RESEARCH AND OTHER STAFF ACTIVITIES). (2) The possibility of developing a conference which would help administrators of area schools in the development of their administrative patterns is being explored. (3) In the state vocational system, one intern from the University of Wisconsin has been co-sponsored by the Kenosha Vocational, Technical, and Adult School and the Center.

Three other co-operative research projects are being carried out: (1) a study of full-time and part-time students to determine why they enroll (see section of this Report on RESEARCH AND OTHER STAFF ACTIVITIES--Duffy); (2) an attempt to determine how new vocational programs are started (see section of this Report on RESEARCH AND OTHER STAFF ACTIVITIES--Somers and Whinfield); (3) an agreement with the State Board staff to identify the need for teacher training, so that the Center can explore, with other University personnel, alternative possibilities of expansion and improvement of the University's teacher training programs.

## III. THE REFERENCE UNIT

This year saw further growth in the collection of materials and the dissemination of research and bibliographical information to an increasing number of persons interested in vocational and technical education. Over 5,400 documents are presently indexed and housed in the Center's reference collection. The Center's staff now prepares and circulates periodic bibliographies on 18 general topics. The mailing list for these bibliographies has increased from 400 in September, 1966 to 1,300 in August, 1967. In addition, the Center prepares bibliographies on special topics sent in by individuals. More than 300 such special searches and reports were prepared during the past year, and the number of requests has grown to about 40 per month.

A special project of the year was an evaluation of this bibliographic service by its users. Dennis Radtke, past search analyst of the Center, made this study in connection with completion of his Master's degree which he received in June 1967. A brief summary highlighting the findings of his study follows:

> Questionnaires were mailed to persons receiving the general bibliographies and to those who had submitted specific requests. The respondents were asked to report whether the references contained in the bibliographies were pertinent or marginal on the basis of their applicability to the topic being researched. Pertinent references were those judged to be "satisfactory or unsatisfactory"; marginal references were those judged to be "of interest" to the researcher.
>
> Ninety-two percent of the pertinent references in the general bibliographies were judged to be satisfactory, and 89 percent of

the marginal references were found to be of interest. In the specific bibliographies, 73 percent of the pertinent references were found satisfactory and of the marginal references, 87 percent were of interest. Because of the high degree of specificity and pertinence effected in the special topic search, the proportion judged to be pertinent was lower, but still satisfyingly high. The favorable evaluations are comparable to or above the figures reported by other retrieval systems as found in a review of the literature.

This rating of the bibliographic service received additional confirmation from a study performed by Robert Halstead, a graduate student at Florida State University, Tallahassee, who evaluated the bibliographies received by his major professor at that institution. Among his conclusions, Halstead reports:

> "Eighty-two percent of the 1,461 listings were found to be pertinent to the subject of the bibliography. The pertinent references were deemed to be generally satsifactory, and more than 50 percent had value in terms of the type, source, length and currency of the material. More than 50 percent of the marginal references were found to be of interest."

Halstead recommended that the reference service indicate the availability status of the documents listed; make philosophical as well as operational classifications; and establish review procedures for considering quality and appropriateness of the listings. The Center is grateful for this independent study of its product, and will take advantage of these and other suggestions for improvement of its services.

The Center has received many letters concerning the usefulness of its service. A small sampling of these comments follows:

Elaine Gridley--Business Education Teacher, Abbot Pennings High School, West DePere, Wisconsin

> "The Center was a convenient and thorough resource...it was a valuable experience to become acquainted with the services you have available and I intend to use them to better advantage as I am able...."

Robert Bergstrom--Assistant Director of Vocational and Technical Education, Duluth Area Institute of Technology, Duluth, Minnesota

"I have no suggestions at this time--the type of service you perform is absolutely essential for intelligent growth in vocational-technical and/or occupational education."

Kenneth M. Wold--Director, Research Coordinating Unit, Division of Vocational Education, Iowa State Department of Public Instruction, Des Moines

"We believe your service is doing the job intended and we plan to utilize your services more in the future. As we see it, more must be done by our RCU to get others in our state interested and involved."

Raymond J. Sacks--Director of Vocational, Technical and Adult Education, St. Louis, Board of Education

"Keep up to date. I feel that you have done a very thorough job. We expect to make a great deal of use of these lists in connection with our new and current study of vocational education in St. Louis schools."

G. Dwight Rowe--Coordinator of Educational Research, Milwaukee Board of School Directors, Milwaukee

"(All references were of interest and value.) Since this material is in our general reference file which is available to all members of the Superintendent's staff as well as to personnel in the separate schools, it may have a wider range of applicability and usefulness than for the individual conselor. It is an excellent source of information for the initial survey of specific problems which arise."

Edward F. Kotchi--Dean of Technical, Semi-Professional and Occupational Education, Junior College of Broward County, Ft. Lauderdale, Florida

"May I suggest that you let everyone in vocational-technical education be informed that your services are available. I, for one, had not realized that the research that was being done was of this nature. You are performing a very definite service to the field."

The users of the Center's reference services include secondary school administrators and teachers, vocational-technical school personnel, community college administrators and faculty members, university personnel, state and federal government officials, research personnel of testing and research centers, foundation officials, and personnel of agencies in foreign countries. About 15 percent of the users are in secondary schools; about 50 percent in collegiate institutions, or post-secondary schools; the remainder are scattered among the many private and public agencies having special interest in some phase of the role of vocational-technical education in American society.

A geographic distribution of users of the Reference Unit's general and specific bibliographic service shows that the references are sent to persons in 49 states, the District of Columbia, two territories of the United States, and to 17 foreign countries.

GEOGRAPHICAL DISTRIBUTION OF USERS OF REFERENCE SERVICES

| State | Gen. Bib. | Spec. Bib. | State | Gen. Bib. | Spec. Bib. |
|---|---|---|---|---|---|
| Alabama | 5 | 0 | Tennessee | 12 | 4 |
| Arizona | 4 | 0 | Texas | 13 | 2 |
| Arkansas | 3 | 2 | Utah | 15 | 7 |
| California | 70 | 19 | Vermont | 6 | 0 |
| Colorado | 9 | 3 | Virginia | 8 | 0 |
| Connecticut | 8 | 2 | Washington | 12 | 0 |
| Delaware | 1 | 1 | West Virginia | 8 | 1 |
| District of Columbia | 98 | 8 | Wisconsin | 276 | 71 |
| Florida | 14 | 4 | Wyoming | 5 | 2 |
| Georgia | 6 | 0 | Alaska | 2 | 0 |
| Idaho | 13 | 1 | Hawaii | 8 | 0 |
| Illinois | 56 | 10 | Puerto Rico | 5 | 0 |
| Indiana | 24 | 6 | Virgin Islands | 0 | 0 |
| Iowa | 18 | 7 | | | |
| Kansas | 2 | 0 | | | |
| Kentucky | 9 | 3 | | | |
| Louisiana | 1 | 1 | | | |
| Maine | 8 | 1 | Foreign Countries | | |
| Maryland | 15 | 3 | Australia | 5 | 0 |
| Massachusetts | 35 | 5 | Canada | 28 | 3 |
| Michigan | 60 | 12 | Chile | 1 | 0 |
| Minnesota | 27 | 11 | England | 2 | 0 |
| Mississippi | 5 | 2 | Guam | 1 | 0 |
| Missouri | 10 | 0 | Germany | 1 | 0 |
| Montana | 3 | 0 | India | 2 | 0 |
| Nebraska | 6 | 0 | Israel | 3 | 1 |
| Nevada | 6 | 0 | Malaysia | 1 | 0 |
| New Hampshire | 3 | 0 | Peru | 1 | 0 |
| New Jersey | 32 | 9 | Phillipines | 1 | 0 |
| New Mexico | 5 | 6 | Switzerland | 4 | 0 |
| New York | 101 | 18 | Turkey | 1 | 0 |
| North Carolina | 12 | 2 | U. A. R. | 0 | 1 |
| North Dakota | 6 | 1 | Yugoslavia | 1 | 0 |
| Ohio | 26 | 6 | | | |
| Oklahoma | 9 | 1 | | | |
| Oregon | 25 | 3 | | | |
| Pennsylvania | 41 | 9 | | | |
| Rhode Island | 2 | 1 | | | |
| South Carolina | 3 | 0 | | | |
| South Dakota | 0 | 0 | | | |

Major problems of the Reference Unit include: a) maintaining a continuing corps of information specialists adequate to the task of acquiring screening, and indexing current and relevant research information b) generating greater knowledge about and on-site use of materials collected, and c) developing workable and economic ways of duplicating materials for users who cannot come to the Reference Center.

The Center is please with the growth and the response of users of its reference services, and with continuing effort, hopes eventually to establish it as a key informational resource for studies in vocational-technical education.

Despite its health initial growth, the Reference Unit has much to do to reach its objectives. During the current year, the staff expects to concentrate on the following measures:

a) increasing the comprehensiveness of search for relevant documents, reducing the number of documents of marginal utility, increasing the number of sources of regular input;

b) screening documents more carefully before indexing and coding;

c) annotating more documents;

d) considering publication of vocational education abstracts;

e) considering new plans for dissemination of materials in the collection;

f) generating greater use of the collection in the library; and

g) coordinating reference requests with the ERIC system of the U. S. Office of Education.

## IV. RESEARCH AND OTHER STAFF ACTIVITIES

The research and staff activities of the Center continued to expand during the year. Seventeen professors were engaged in research projects with financial assistance from the Center. The nature and scope of the research topics and other staff activities are described below.

### National Directory of Vocational-Technical Education Programs

The Center has prepared the first national directory of vocational-technical programs in high schools and post-high school institutions. The directory is limited to schools offering programs which are reimbursable under federal government programs. The information was compiled from information furnished by the state directors of vocational-technical education, and will include full-time enrollment data, by school, for the seven program fields--agriculture, distributive, home economics, health, office, trade and industry, and technical education. From early requests, the Center anticipates a large demand for this pioneer publication.

### Development of Base Line Data for Appraisal of the Effectiveness of Vocational-Technical Education in the United States

In May 1967, the Center was selected by the U.S. Office of Education to conduct this project. J. Kenneth Little and Gerald G. Somers, the principal investigators--with assistance from Richard W. Whinfield--are collaborating on the project with the Bureau of Social Science Research, in Washington, D. C. amd the Educational Systems Research Institute, in Pittsburgh Pennsylvania. The first phase of this project, for which $197,000 was granted, will relate the employment experience of graduates of the secondary and post-secondary institutions to their training programs, school characteristics and personal

factors. It will also provide information which, in a latter phase of the project, will permit study of characteristics of rejectees and drop-outs from such programs and an analysis of costs of such programs in relationship to benefits. The first phase of this project is scheduled to be completed by August 1, 1968.

## Staff Activities

J. Kenneth Little had primary responsibility for development of the activities of the reference unit, conferences on school related topics, establishment of internships, recruitment of fellows, the planning of the National Directory of Vocational-Technical Programs and collaborating with the Bureau of Social Science Research, Educational Systems Research Institute, and the U. S. Office of Education in planning the nation-wide study to provide base-line data for appraising the effectiveness of vocational-technical programs, in addition to administrative responsibilities. Also, in cooperation with the research committee of the directors of Wisconsin's vocational and technical education schools, he is working on the following project:

"Occupational Careers of Graduates of Vocational Schools"

This study will report the job histories of the 1965 graduates of one and two year programs of Wisconsin's schools of vocational, technical, and adult education. Directors of the schools and staff members of the State Board of Vocational Education are cooperating in this study. The information gathered will provide a picture of the characteristics of the growing portion of Wisconsin youth who are preparing for work in post-high school vocational education programs and their subsequent employment, including type and location of work and its relationship to their job preparation.

He is a member of a state committee to evaluate pilot programs of vocational education in Wisconsin high schools and a member of a committee which has developed a project proposal to the Upper Midwest Regional Education Laboratory, Minneapolis, for studies in vocational-technical education in Iowa, Minnesota, North Dakota, South Dakota, and Wisconsin. During the year, he consulted with Portland (Oregon) Community College on a follow-up study of nongraduates, and with AVCO, Poland Springs, Maine about a nationwide occupational information service to be discussed with the U. S. Department of Labor.

Dr. Little's article, "The Occupations of Non-College Youth," which appeared in the American Educational Research Journal in March of 1967, has been added to the Vocational Education Reprint Series.

Gerald G. Somers, in addition to his administrative responsibilities in connection with the Center's research, publication and conference programs, has completed the following papers and publications during the current year:

"The Rich, the Poor and the Others," in The Changing American Economy, edited by John R. Coleman, Basic Books, 1967.

"Retraining the Disadvantaged Workers," (with Glen Cain), Research in Vocational and Technical Education, Center for Studies in Vocational and Technical Education, University of Wisconsin, 1967.

"The Responsiveness of Vocational Education to Labor Market Changes," presented at the Brookings Institution, April 1967.

"Statistical Requirements for Regional Development Policy," presented at the meeting of the O.E.C.D., Paris, June 1967.

"Evaluation of Manpower Policies," presented at the meeting of the International Industrial Relations Association, Geneva, September 1967.

Work Experience and Training of Older Workers: Cost-Benefti Considerations of Title V, O. E. O., National Council on the Aging, August 1967.

The Training and Placement of Older Workers: An Evaluation of Four Community Projects, (with others) National Council on the Aging September 1967.

"Vocational Education of the Unemployed" (with Graeme McKechnie), to be presented at the meeting of the Industrial Relations Research Association, Washington, D. C., December 1967.

He is the editor of the Journal of Human Resources and a contributor to the Fall, 1967 issue, "The Returns to Geographic Mobility." He is also the Editor of the Industrial Relations Research Association; a member of the Subcommittee on Research of the National Manpower Advisory Committee; and a member of the Executive Committee of the International Industrial Relations Association.

Research in progress includes collaboration with other Center staff members in the conduct of the following projects:

U. S. Office of Education, "Base Line Data for Appraising the Effectiveness of Vocational-Technical Education in the United States" (with Little and Whinfield); "Survey of the Use of Occupational Data in the Counselling of High School Students" (with Perrone); "A Study of the Effectiveness of Procedures for Establishing Vocational and Technical Programs in Wisconsin" (with Whinfield); "Retraining the Disadvantaged" (with Cain; "Employment Effects of Training and Economic Development Policies" (with Tucker); "Evaluation of Relocation and Retraining Policies" (with McKechnie); and "International Comparisons of Labor Market Behavior" (with Bhatt).

Richard W. Whinfield, full-time Adminsitrative Associate, sees that the administrative activities of the Center are directed toward the objectives of the Center and to make necessary recommendations to the co-directors relative to improvement of the administrative operation. He maintains liaison with the various branches of the University interested in vocational and technical education; with various government agencies at both state and national levels; with local school representatives seeking assistance; with students at the University of Wisconsin and other colleges and universities;

and with other centers. Also, he assists the co-directors in developing the National Directory and the national evaluation study; works with researchers employed by the Center in the development and operation of their research projects--particularly in the administration of funds and the use of Center services--and has initiated the following studies:

"A Comparative Study of Students in Public Non-Baccalaureate Post-High School Programs in Institutions with a Single Educational Track and in Institutions with Dual Track."

"Trends in Wisconsin Teachers Training, Recruitment, and Employment."

"A Study of the Effectiveness of Procedures for Establishing Vocational and Technical Programs in Wisconsin." (with Somers)

One of the problems confronting vocational educators is how to relate labor market information to the establishment of new programs. This study is designed to obtain information on procedures now in use and to measure their effectiveness.

The first phase of the study has been completed--the accumulation of information on how local schools are presently developing new programs. This phase consisted of three parts: 1) the interviewing of all directors in Wisconsin Vocational, Technical, and Adult Schools and local vocational coordinators in Wisconsin high schools; 2) a mail questionnaire to selected teachers in Wisconsin Vocational, Technical, and Adult Schools, and all vocational teachers in high schools; and 3) a personal interview with randomly selected advisory committee members. All of this material has been coded, keypunched and printed out for analysis. The first step in the analysis, presently underway, is to summarize the findings of the interviews and questionnaires to determine what techniques are being used and to analyze the respondents' reactions. An effort will then be made to

determine the degree to which the new programs are meeting the needs of the state. If satisfactory determinations can be made, this technique will be attempted on a national level.

Norman F. Dufty, Visiting Professor of Industrial Relations, was also affiliated with Center as a Research Associate. He initiated a series of studies utilizing data about Wisconsin's vocational, technical, and adult education schools, examining their programs and graduates. These studies include:

"Initiation of Technical Programs."

Through personal interviews with staff members of a local school, state personnel, students and other citizens, an attempt was made to determine the techniques used for starting new programs and where the pressure for the inititation originated. A report has been submitted to a national publication

"Labor Market Information and Employment Plans of Students in Milwaukee Boys' Technical High School."

All students in Milwaukee Boys' Tech completed a questionnaire designed to illicit information about their plans for the future, how they decided on their occupation and how they evaluate the programs. The material has been processed, and a report has been prepared and will be published.

"Labor Market Information and Employment Plans of Students in Four Technical Institutes in Wisconsin."

This study is similar to the Boys' Technical High School study, but at the post-high school level, and deals with both full-time and part-time evening school students. The report for this study is in progress.

"The Flow of High School Graduates to Vocational-Technical Schools in Wisconsin."

Data were collected by Dr. Robert Fenske for a study supported by the

Center in 1964, in which the graduates of 10 selected high schools were asked their plans for the future. The same students were asked, through a follow-up questionnaire, what they were actually doing three years after graduation. The information for this study has been accumulated and processed, and is precently being analyzed.

Mr. Dufty will complete these studies when the information collected has received its scheduled data processing.

In addition, Professor Dufty has completed "A Study of Indian Workers" Opinions on Trade Union Leadership" and reported on this at the National Industrial Relations Seminar at Chandigarta, India in September. In collaboration with Dr. Bhalchandra J. Bhatt, Professor of Indian Studies, he has prepared for publication in the International Journal of Comparative Sociology, "A Study of Labor Force Commitment and Recruiting Practices," based on an Indian labor market survey. He also has edited a collection of papers, Essays in Apprenticeship, which will appear as a supplement to the Proceedings of the Conference on Research in Apprenticeship Training.

Philip Perrone, Professor of Counseling and Behavioral Studies and half-time research associate has been directing and supervising the following research projects:

"Survey of the Use of Occupational Data in the Vocational Counseling of High School Students." (with Somers)

This survey was prompted by an awareness that little was know about the materials which school personnel use, how they use these materials, and whether more use would be made of outlook and description materials if new formats were made available.

As a result of a pilot investigation, it became apparent that much of the available material was not being used. Furthermore, a conference, Occupational Data Requirements for Education Planning, held in Madison in the summer of 1965, pointed out the lack of knowledge which existed

concerning the information available to people making vocational decisions. At the same time, the Bureau of Labor Statistics Occupational Outlook Division, decided that while several thousand copies of the Occupational Outlook Handbook series were being purchased, little was known about how these materials were being used and whether their present format was suitable. Finally, guidance educators and state guidance supervisors were disturbed by the ignorance of counselors regarding materials; at the same time, they realized some of the difficulties faced in trying to organize and to present information materials. The nature of these difficulties and the way to remedy them must be known in order to insure a logical movement from school through training into an occupation.

The lack of information about all aspects of jobs makes all youth diadvantaged in the decision-making process. This survey was undertaken in order to determine where the difficulties lie and what can be done to remedy the present situation. We relied on those who must effectively use these materials to enumerate the problems and shortcomings they see in these materials as well as to suggest ways to overcome these handicaps.

Initially, 18,000 sets of questionnaires were mailed to school administrators. Each set included an eight-page questionnaire for the counselor, a one-page questionnaire for the principal, a one-page questionnaire for the librarian, and three, one-page questionnaires for vocational instructors. The questionnaires were designed to find out: (1) sources of occupational information, (2) evaluation of sources by users, and (3) suggestions for improving the content and/or format.

Approximately 100 personal letters were sent to urban school systems

that had indicated that formal approval was required before they could participate in any sort of survey. As a result of this correspondence, most of the major cities in the United States agreed to participate. In spite of this, responses to the questionnaire were low--only 2500 responses had been recorded by August, 1966; therefore, a post-card follow-up was conducted. This involved mailing a reminder post-card to all schools that had not yet responded to the survey in any way. Approximately 500 more questionnaires were received as a result of the post-card follow-up.

In November, another follow-up was conducted which involved remailing of the questionnaires to the schools on the United States Office of Education list that had not yet responded. Approximately 14,000 questionnaires were sent, resulting in an additional 1,300 responses.

All information from completed questionnaires was coded and keypunched. A preliminary count of the number of similar responses to each question was then made.

In January, 1967, an analysis of the evaluations and comments that the counselors had made regarding the Occupational Outlook Handbook was made for the Bureau of Labor Statistics, United States Department of Labor. This report involved extracting the number of times that the counselors mentioned the Occupational Outlook Handbook as one of the sources used with students and then matching comments and evaluations of that source that were made by these same counselors.

It had been discovered earlier that approximately one-fifth of the existing public schools in the United States were not listed on the 1962 report from the United States Office of Education. Thus 300 schools that had not been contacted at all in connection with the

survey were randomly selected to receive the questionnaires. Another cover letter was prepared to accompany the questionnaires stating the nature and purpose of the survey and urging cooperation in participating in the survey. These materials were mailed in April, 1967.

Originally, the Bureau of Labor Statistics had planned to conduct personal interviews with some of the schools not responding in any way to the survey. Early in May, 1967, it was discovered that this plan could not be carried out. Consequently, in order to see if there were a significant difference between the respondents and the non-respondents, 100 schools were randomly selected from the list of 500 that had been prepared for the Bureau and were mailed the survey materials again, this time with a new cover letter stating the objectives of having these particular schools participate at this time.

Cross-break analysis along demographic dimensions will be done to see if there is a significant difference between the group of respondents and the group of nonrespondents. Also, analysis will be done to see if there is a significant difference between the group of 300 schools not previously contacted and the other two groups.

"Validity of Teacher Ratings of Employability"

This is a longitudinal career development study of boys and girls in a suburban Wisconsin community. The study of emerging occupational attitudes and values of both the students and their parents has been going on for five years. The first graduating class will be in 1968. In addition to studying their in-school development, a five-year follow-up is planned.

It has become possible to study the effect which varying amounts of contact with the school counselor has upon vocational development,

educational progress, and post-high school planning.

"Vocational Aspirations: Their Meaning for Counselors"

A follow-up study of high school graduates from the first pilot vocational program is underway. The major focus of the follow up is a study of the means of job securement and an evalution of the high school preparation received. A second stage is involved, whereby the immediate job supervisor rates the job performance, commenced in September. Previous information concerning social, psychological, and academic aspects of these individuals will permit development of predictive indexes of both job satisfaction and worker effectiveness. It will also be possible to validate high school teachers' judgment of pupils' eventual on-the-job performance.

Murray Tucker, project associate, has been an Associate Editor of the Journal of Human Resources during the past year. He is also assisting with the sample selection and questionnaire design on the Office of Education grant to study the impact of the Vocational Education Act 1963.

He is also a half-time research associate with the Institute for Research on Poverty and is working on a project in Health Economics for this group.

Tucker assited in the preparation of the Industrial Relations Research Institute's report to the Office of Regional Economic Development, Retraining and Migration as Factors in Regional Economic Development. He is currently analizing data for a report to the Economic Development Administration on Rural Redevelopment Projects.

Graeme McKechnie, project associate, assisted in the following projects:

"Older Worker Project" of the National Council on the Aging which is evaluating programs for older workers in four U. S. cities.

"Area Development and Employment" studying the impact of the Area Redevelopment Act on loans and grants on industries in northern Michigan,

Wisconsin, and Minnesota.

"Relocation of Workers' measuring and analizing the economic and social consequences of the relocation of workers to determine the factors which inhibit or encourage geographic mobility.

McKechnie has joined the faculty at York University, Toronto, Canada, as an assistant professor where he will be teaching labor economics and labor relations. He is also working on a study of the Canadian trucking industry for the Canadian Department of Labour.

Michael T. Aiken, Assistant Professor of Sociology and Robert Alford, Professor of Sociology, have completed the following project.

"An Investigation of Community Variations in the Establishment of Vocational Training and Retraining Programs."

The purpose of this study is to examine the relationship between social and economic structural properties of communities and the availability of vocational education programs. The study is being conducted in 186 cities with populations between 25,000 and 250,000 located in the industrial belt which stretches from New England to the Rocky Mountains.

The availability of vocational education programs is being measured by the number of enrollees per 100,000 population in 1964-65 in several types of vocational and technical programs. i.e., vocational agriculture, business education, home economice or household arts, health, industrial education, and a combined total.

In addition to the traditional structural characteristics of communities, such as size, regional location, age of city, economic expansion, socio-economic composition of the population, etc., a number of additional characteristics of these cities are being explored, e.g., degree of heavy vs. light industry, degree of absentee ownership of industry, and degree of concentration. To develop these latter two indicators, a list of all industrial firms in each

city was obtained from local chambers of commerce and supplemented with state industrial directories. Employment figures were also obtained from these sources. The ownership status of each firm was determined by consulting various national manufacturing directories such as Standard and Poor's, Fortune's, and Thomas' Register of American Manufacturing. Both the employment figures and ownership status of each firm with 100 or more employees were verified through a short mail questionnaire.

All measures of the structural characteristics of communities, including the degree of absentee ownership and the degree of concentration of employment, have been obtained. The data for the availability of vocational education programs is approximately 80 percent. Extraordinary difficulty has been encountered in obtaining the necessary data from a few states, notably Indiana, despite personal visits and telephone calls. A decision will be made in the fall of 1967 whether to restrict the study to selected states or to continue efforts to obtain 100 percent of the data. One possible strategy would be to regard the policy of each state toward vocational education--whether facilitating, neutral, or negative--as an independent variable, and to proceed with the empirical analysis of the states and cities for which data are available. In either case, a report based on the data in hand as of November 1, 1967 will be submitted in the early spring of 1968.

Dean Bowles, Assistant Professor of Educational Administration and Donald McIssac, Assistant Professor of Educational Administration have initiated the following research:

"Forces Influencing Decision-Making in Vocational-Technical Education in Wisconsin, Before and After the Vocational Education Act of 1963."

The objective of this research project is to study the elements of the decision-making process within the Wisconsin State Board of Vocational and Adult Education, paying special attention to an assessment of change in these

elements since the passage of the Vocational Education of 1963.

The study will indentify key issues affecting vocational-technical education in Wisconsin; the sequence of events by which the issue was resolved; and the key participants in the sequence of events. Estimates of the strength of the several forces influencing decision and their interrelation will be obtained. It is hoped that a comparison of the elements at work before and after the passage of the Vocational Education Act will indicate new elements or patterns of forces that may be consequences of the federal legislation.

The primary data will consist of information obtained in interviews with members of the Wisconsin State Board of Vocational and Technical Education and its Executive Director and his staff; members of the Coordinating Committee for Higher Education in Wisconsin; members of the Wisconsin Legislature; and lobbyists on issues affecting vocational-technical education.

Interviewers especially selected and trained for this study will interview members of the groups primarily interested in issues affecting vocational-technical education, using a standard interview schedule. The interviewer will record the acquired information. Recording devices will not be used. The information will be coded and prepared for data processing to provide the analysis intended by this study.

Under the direction of Alan C. Filley, Professor of Business and Associate Director of the Industrial Relations Research Institute, the following pieces of research were completed through research assistance provided by the Center.

"The Structure of Related Instruction in Wisconsin Apprenticeship Programs," by James S. Crabtree (Ph.D. dissertation).

This study reports on a survey of apprenticeship related instruction programs in Wisconsin vocational schools. Major areas described include administrative relationships, trade programs, enrollment patterns, structure of

curriculum, instructional staff and cost of instruction. Crabtree concludes that the present structure of related instruction is not likely to be changed in the immediate future but that there are definite needs for improvement of its administration. He recommends including representatives of vocational schools on advisory committees; scheduling apprenticeship training to coincide with regular school terms of vocational schools; developing a standardized core curriculum; reconsideration of the practice of granting credit for work-experience, and the improved use of tests. The study includes much descriptive statistical data about related instruction programs in Wisconsin in 1966.

"A Study of Registered Joint Apprenticeship Committees in Wisconsin Building Trades," by Karl O. Magnusen (Master's thesis).

This study focuses on the characteristics of joint apprenticeship committees, their perceptions of their committee functions, their activities in influencing related instruction and in supervising apprentices, and their viewpoints on issues affecting apprenticeship programs. It also develops data on procedures for selecting apprentices and on apprenticeship-journeyman ratios. Magnusen concludes that joint apprenticeship committees should have legislative recognition; that better information should be provided to committee members on apprenticeship practices nation-wide, and on labor market conditions. He recommends that an accreditation plan be developed for persons who have learned a trade without formal training, and suggests consideration of such creative new programs as tax credits for employers, apprenticeship training for emerging occupations, and refresher courses for journeymen. The study includes much statistical information about joint apprenticeship committees in Wisconsin and their activities as of 1966.

W. Lee Hansen, Professor of Economics and Educational Policy Studies, has been conducting the following research.

"Long-Range Occupational Projections."

This study is directed at evaluating current efforts to make long-range projections of occupational trends in the United States. The first report was in the form of a paper presented at the December 1965 meeting of the Industrial Relations Research Association, entitled "Labor Force and Occupational Projections;" it also appeared in the Vocational Education Reprint Series (see section of this Report on PUBLICATIONS).

Another paper on projections is now in draft form. This paper deals with the projections of engineers over the 1950-60 and 1960-70 periods. It is expected that this paper will be revised and submitted for publication by early next year.

"Variables Affecting Students' Decisions on Post-High School Education," with Burton Weisbrod, Professor of Economics.

The study involves an attempt to isolate and quantify the variables influencing a student's decision as to whether to continue his education after high school. The model employed is a linear regression model; the dependent variable is the probability a student will opt for more education after high school. Ultimately, it is hoped that the model will predit the likelihood of a student continuing, given data on the various variables. The analysis also hopes to pinpoint the relavent differences between students who select college and those who select vocational-technical education after high school, and between students who continue and those who do not. Special stress will be placed on family income as a determinant.

John Helling, Professor of Educational Administration has been working with J. Kenneth Little on the following research project.

The report of the study of educational needs beyond high school in South Milwaukee County was completed in February, 1967.

The study had included investigations of demographic characteristics and felt educational needs among four separate groups: (1) former high school students from the survey area, (2) present area high school seniors, (3) South Milwaukee County residents, and (4) employers of South Milwaukee County residents. Several visits were made to examine existing post-high school educational facilities in and near the survey area.

Conclusions generally supported the following premises: (1) a majority of present and former high school students planned for some college training, (2) among those persons surveyed, it was discovered that most felt that some post-high school training was necessary for successful occupational placement, (3) although many survey respondents identified a college education as the one sought by the greatest numbers of students, all four groups perceived the most urgent post-high school need in South Milwaukee County as Vocational-Technical, (4) present facilities for Vocational-Technical education in and around the study area are either stringently limited in scope or are filled to capacity and consequently not meeting the rising demand to accommodate more students.

The report listed one major recommendation: Post-high educational facilities of a vocational-technical nature should be developed to serve the people of South Milwaukee County. Alternative plans for the actualization of the recommendation were suggested.

The survey data were also utilized in the development of a Ph.D. dissertation by John Houle, one of the survey staff, designed to investigate the relationships of selected demographic characteristics and conservative-liberal beliefs to post-high school educational expectations among the survey resident sample.

The dissertation reported that the educational expectations were used to form the citizens into three groups. The first group was comprised of those respondents expecting the need of an academic type program; the second group was formed of those desiring a vocational program; and the third group were those who saw no need for any additional educational programs in the South Milwaukee area. Three hypotheses pairing the three groups were generated to test the relationship between the three groups and their socio-economic variables. The first hypothesis paired the academic and the vocational groups; the second matched the vocational and the "no-need" groups; and the third tested the relationship between the academic and the "no-need" groups. The relationships and the hypotheses were tested by the one-way analysis of variance.

The study results indicated that there were no significant differences between the academic and the vocational groups for any of the nine variables used. The second hypothesis matching the vocational and the "no-need" groups found four variables to be significantly related to expectations. The group, seeing no need for additional educational facilities, was found to be significantly older than the vocational group had resided longer in South Milwaukee County, had worked at the same occupation longer, and they lived in districts containing more post-high school educational programs than the vocational group.

The test of the third hypothesis, matching the academic and the "no-need" groups, found six variables to be related to educational expectations. Significant relationships were found for the variables of age, values, occupational prestige, length of job tenure, educational attainment, and available post-high school facilities. The no-need" group was found to be older than the academic groups they were more conservative worked at lower prestige jobs, had worked at the same occupation a longer period of time, had a lower

level of educational attainment, and lived in districts in which there were more post-high school educational programs than were in the districts in which the academic groups resided.

The investigator concluded that a relationship does exist between educational expectations and socio-economic characteristics. A knowledge and understanding of this relationship can be of benefit to the practicing administrator.

The survey of residents in this study was accomplished by interviewing residents of 1,000 households selected at random from property tax rolls of the real estate assessor's in each of the communities. This enabled the study to reflect the occupations and other characterisitcs of residents regardless of the location of their jobs. Almost a third were found to be commuting more than nine miles to work. In this respect, the survey represents an approach different from many community surveys which study only those workers who are locally employed.

This study was directed by John F. Helling, Assistant Professor of Educational Administration and Staff Associate of the Center in collaboration with J. Kenneth Little, Co-Director of the Center. Since the study's completion Mr. Helling has accepted the presidency of a junior college in a suburb of Minneapolis, Minnesota.

Richard Perlman, Professor of Economics at the University of Wisconsin--Milwaukee, is conducting the following research.

"Forecasting Labor Demands: A Comparative Study."

This study evaluates the extent, methods, and accuracy of forecasts made by Milwaukee firms of their future manpower needs. Apart from gathering information on the degree to which firms in Milwaukee engage in manpower forecasting, this research has two other purposes. First, results on accuracy can help evaluate the reliability of company responses which serve as guides to

the emphasis and direction of training programs and vocational guidance. Second, from the methods found to be most successful in achieving accurate forecasts, it is hoped that a system of forecasting techniques can be suggested for general usage

Data were collected from interview responses to a structured questionnaire. Interviews were conducted with representatives of 160 Milwaukee firms, representing all industrial classifications. All but 30 firms had over 100 employees. After the interviews were completed, the data were coded and analyzed. The study has been completed except for the final report of findings and conclusions which should be available by December 1, 1967.

Preliminary Findings

1. Most firms report that they engage in forecasting. Of these, most forecast for specific manpower needs, usually for skilled, trained workers, generally in short supply, rather than for over-all manpower needs.

2. Most firms use rather simple forecasting techniques. A common method is to predict manpower needs based on sales forecasts. Typically, forecasts are for relatively short periods, a year or less. Accuracy does not seem particularly related to the forecasting system, with firms which use simple methods just as likely to forecast accurately as those which make detailed and comprehensive study of their manpower needs. Similarly, firms which have formal training programs, presumably undertaking the training of workers who will satisfy specific future manpower needs, seem no more likely to forecast accurately than other firms. These findings suggest it will be difficult to prescribe a system, based on this study, that will lead to accurate forecasts.

3. Firms which do tend to forecast more accurately than others are those for whom accuracy in predicition of future manpower needs is important. There is a strong positive relationship between accuracy and responses to questions

concerning the seriousness of errors oversatisfcation or underestimation of specific future work force needs. Based on this study, the finding that accuracy in forecasting is more strongly associated with the pratical importance of accurate forecasts than with the method used in forecasting hinders a formulation of improved forecasting techniques.

Charles Perrow, Associate Professor of Sociology is working on the following study.

"The Vocational School Consumer."

This research deals with the consumption of the output of vocational schools by industrial firms. Approximately 20 firms in the Milwaukee and Fox Valley area of Wisconsin will be studied to see if there is an association between the type of technology and organizational structure of firms on the one hand, and, on the other, the extent of utilization of technical schools' output, the kinds of ties maintained with schools, and the extent to which they influence the program of technical schools. In addition, information will be gathered on alternative sources of hourly and clerical personnel. It is hypothesized that the more nonroutine the technology of the firm and the less the degree of bureaucratization (these two variables having been found to be associated in previous research), the higher the utilization of technical school output and the closer the ties with the schools, controlling for the extent and type of personnel needed by a firm. The more routine the technology and bureaucratic the structure, the less the utilization of these sources, and the more reliance upon informal means of recruiting personnel (off-the-street; word-of-mouth; family and friendship ties; etc.).

Interviews and questionnaires are utilized to determine the technological classification of firms (routine, nonroutine, engineering, craft), the organizational structure, hiring procedures, and search procedures for new personnel.

In addition, technical school personnel will be interviewed to determine how they perceive their ties with their "customers" and the demands of their "market."

Current research efforts have concentrated on gaining access to industrial firms and constructing a questionnaire. There are no preliminary findings as yet. The project started July 1, 1967 and should be completed by June 30, 1968.

A new research project has been started by LeRoy Peterson, Professor of Educational Administration. It is:

"Determination of Costs in Vocational-Technical Programs."

This is a new study, initiated in September 1967. The major research activity consists of preparing instruments which will be used to ascertain the cost of programs of vocational and technical education, including the cost of earnings foregone. After they have been developed, the instruments will be tried out on a pilot basis at the Kenosha Vocational and Technical School.

James L. Stern, Professor of Economics, is conducting the following research.

"A Study of Vocational Choices of Employees Terminated in a Plant Closure."

This research project is designed to study the decision of displaced workers to (1) seek immediate employment in the labor market, (2) retrain before seeking employment, (3) accept an inter-plant transfer with the same employer or (4) accept specially designed early-pension benefits. The purpose of the study is to discover what effect these post-shutdown choices have on earnings. Data from the Armour & Company plant closing in Kansas City, Kansas have been collected and coded. Cells of workers are being constructed on the

basis of race, sex, skill, age, education and their entry into the same or a like labor market. Cells are further differentiated by post-shutdown vocational choice. Data from other termination experiences will be sought and will be similarly coded and divided into comparable study groups. Earnings data will be based on employer records and social security administration data.

It is hoped that an analysis of preplant closure and post-closure earnings will permit the indentification of the likely consequences of post-shutdown vocational choices on earnings.

Kirk R. Petshek, Professor of Urban Affairs at the University of Wisconsin--Milwaukee, has completed the following research.

"Barriers to Employability of Nonwhite Workers."

A wide variety of data on training, schools, employment, job-search, personal experiences, etc. were collected from 250 respondents in white-collar occupations, picked at random from (1) the active files of the Employment Service and Youth Opportunity Center of registered workers in the clerical and sales fields; (2) MDTA graduates; (3) direct applicants to selected MVEEOC employers--those both hired and not hired; (4) on-the-job trainees selected by the Urban League; and (5) January 1966 graduates of selected high schools. All the responses received were correlated with the experience of the same respondents in finding and holding employment; the results in the cases of the most and least successful quartiles were compared. The various phases of employment preparation were expected to show some impact on the labor market; a series of relationships should have identified employment barriers and suggested remedies.

The most important conclusion was that no statistically significant correlation was found between any of the activities generally assumed to lead to success in the labor market. Although isolated relationships appeared to exist,

the over-all findings were negative.

Secondly, expected differences between white and Negro workers often did not exist or were much smaller than anticipated. High school experiences were similar in many more instances than they were different. The marriage status of Negroes, and the successful employment experiences, seemed to parallel white workers' family life. For example, the general belief about the Negro marital record and family responsibility was not borne out; it was found that virtually the same percentage of white and Negro workers were married. What is more, those Negroes with more successful employment experience were the married ones. One wonders whether married workers are more likely to assimilate to attitudes prevailing in the world of work. Discrimination (or belief that it would constitute a problem) lowered Negro expectations, but the realism and openness of white workers about their own qualifications often led to similar behavior when confronted with an actual job. At times the difference between sexes seemed more meaningful than between races.

Voluntary training activities in vocational schools seem to show a more favorable result for the students' employment [illegible] taking vocational training spent more time in jobs than the total group of respondents. While close to 60 percent of the Negroes felt the courses helped, only 45 percent of the whites felt that way. Vocational school counselling was regarded as more useful by the respondents than other counselling, especially by Negro workers. Yet more of them had placement trouble although the vocational schools made special efforts to get jobs for its students. In spite of the comparatively favorable attitude of Negroes to this kind of training, the less successful cases were those of Negroes.

The situation seemed reversed in MDTA training. Negroes were surprisingly more disillusioned with it and they doubted its usefulness--although they should be the prime beneficiaries of this program. Negro expectations <u>before</u> taking the

course showed one of the few statistically significant correlations with successful employment--but it is negative. After training, less than half of the Negro workers felt training was useful, while 70 percent of white workers felt that way--the opposite distribution than after vocational school training.

On-the-job training seems to have been more successful. The fact that the worker is placed immediately into the employer's organization often makes training and placement closely related. Some barriers encountered elsewhere by Negro workers--such as social intercourse--are less common. The beneficial consequences of this relationship are evident in this survey, hence a serious suggestion emerges: vocational schools should concentrate on helping to establish this kind of noninstitutional training.

Negro workers seemed to enter the labor market later than white workers and to establish themselves more slowly--partly because they doubt their chances in the white-collar field. Progression on the clerical job seems slow, so that Negroes are more likely to move between jobs and leave the labor force earlier. Their low expectations may have been the reason for this behavior, since they do not blame lack of qualifications [illegible] record, which white workers freely do. Methods of job referral showed a Negro preference for the public employment service, but again the difference between the races was smaller than one would have expected. Direct application to the employer was by far a more popular method of job-search for both races. But better employment experiences led to similar expectations and attitudes between Negroes and whites.

The hypothesis that personal problems, environmental factors, family conditions, past experiences, psychological attitudes, personal appearance or similar features might individually or in combination be responsible for a poor employment record was not proven by this survey. While it was difficult

to hypothesize in more detail, it was hoped that one or another of these traits might show up as employment barriers, so that remedies for them could be developed. The fact that none did, does not necessarily disprove the hypothesis; more detailed exploration with larger groups and controlled experiments may still show the assumption to be correct.

Similarly, high schools, study courses, counselling, or extra-curricular activities, seemed to have little impact on later employment. The effect of high school or vocational school counselling, was, at best, insignificant, if not negative. The similarity between white and Negro experience was striking and unexpected. While white girls seemed to be helped more by placement efforts and counselling, and it took Negro girls a longer time to get a job, once employed the Negro girls seemed to be more stable employees. A high school diploma appears to open fewer doors for Negro boys, and their negative attitude to high school relevance bears this out.

The existence of covert barriers to nonwhite employment or promotion among clerical jobs was an important hypothesis for this study. Social intercourse [illegible] fellow workers, it was believed, was one of the important barriers. Participant-observer studies made in individual firms (which were conducted for a parallel HEW study) appeared to bear out this assumption. The present survey, however, fails to support those findings.

It was found that the degree of satisfaction on the job, or friendships and "getting along" with fellow employees, does not seem to be differentiated between the races or does the record of unpleasant experiences with fellow workers. There is only a minority of clerical workers interested in meeting with each other after work as expected; but there, too, there is little difference between Negroes and whites. Clearly, this result diametrically contradicts our hypothesis, as well as the observations made on the job in the

studies of individual firms.

This surprising similarity between the races is in line with other observations of this study. Barriers to being employed seem more formidable when looking for a job than those observed within a given situtation, such as relations on the job itself. Even among methods of referral, face-to-face encounters seem to generate fewer barriers. One wonders whether white-collar job situtations, threatening though they might appear in anticipation, do not operate as a step in mutual assimilation. The work itself, the workers' middle-class aspirations, and the permeating of the "work ethic" might mitigate friction over time. At least, such a possibility is raised by the unexpected findings of this study.

As the activities expected to improve employability, including different training methods, have not shown a demonstrable impact on the employment market, new research seems imperative. While these measures individually fail to prove that employment success results, some combination of them might. If an unsuspected condition emerges as standing in the way of better employment [illegible] pretraining activities might be indicated to make training more useful. Only careful experimentation might reveal barriers we do not yet comprehend. A number of simultaneous small pilot projects, trying out different combinations of known remedies, could be the next step. In many respects, what must be done resembles medical research--looking for the cause of a disease and it cure. If something that helps is found, it may or may not tell us the cause; but to find the remedy is the goal that counts.

## V. GRADUATE STUDY, FELLOWSHIPS, AND INTERNSHIPS

### Graduate Study in Vocational and Technical Education

The encouragement and promotion of graduate study in the field of vocational and technical education has been one of the major objectives of the Center. Research assistantships are currently available for activities in connection with the University-wide program of research on problems in this area, including studies of the job market and occupational trends; analysis of job requirements and skills; worker mobility; human aptitudes, skills, and knowledge required by occupational groups; development of instructional materials; curriculum planning; teaching practices; instructor qualifications; and other projects related to the general goals of strengthening programs of education, training, or counseling for youth and adults for employment or re-employment.

Research assistants may work toward graduate degrees in agriculture, economics, education, engineering, commerce, industrial relations, political science, psychology, sociology, or other fields which have a pertinent relationship to important aspects of vocational and technical education. It is anticipated that their work on vocational education as graduate students will encourage them to continue their interest in this field during their post-graduate careers.

Following is a list of the 13 students currently supported by the Center, with a brief indication of their research or project activities.

Charles Hegji, is helping Professor Richard Perlman in his study, "Forecasting Labor Demands: A Comparative Study."

Bernard Nienhaus is an assistant to Professor Philip Perrone in his study of the "Validity of Teacher Ratings of Employability."

James Jacobs is assisting Professor Perrone in his study of "Vocational Aspirations: Their Meaning for Counselors."

Joseph Fratianni is assisting Professor LeRoy Peterson in his study of "Determination of Cost in Vocational-Technical Programs.

Karl Magnusen and Vivianne Brochet are assisting Professor Charles Perrow in the study, "The Vocational School Consumer."

R. Calvert Stewart is assisting Professor Little in the nation-wide study of graduates of vocational-technical programs under the Office of Education grant.

Arthur Noonan is assisting Professor Kirk Petshek in his study, "Barriers to Employability of Non-White Trainees."

John Melder is working with Professors Weisbrod and Hansen on their project, "Variables Affecting Students' Decisions on Post-High School Education."

Morley Gunderson is assisting Richard Whinfield and Professor Somers in their study "An Evaluation of the Effectiveness of Procedures for Establishing Vocational and Technical Programs in Wisconsin." William Peyton assisted with this study earlier this year.

Lucian Gatewood is working with Professor Somers on his study, "Retraining the Disadvantaged Workers."

Edith Healt is assisting Professor Somers and Richard Whinfield in the study "The Supply and Demand of Teachers in Vocational Education."

## Internships and Fellowships

In addition to the 8 research assistants and 9 project assistants employed on projects of the Center during the past year, the Center established its first internship and has awarded two fellowships to students who will begin studies to complete their doctorates in fields related to vocational-technical education. These students are:

[redacted] Stout State University and a former teacher of Industrial Arts at Whitefish Bay, Wisconsin. Nevala was placed as an intern at the Kenosha Technical Institute for the second semester of 1966-1967. Nevala is completing doctoral studies in Adult Education and plans a career in vocational-technical education at the post-secondary level. During 1967-68, he will be assisting in the information activities of the Center's Reference Unit.

FELLOWSHIPS: William Horvath, B. S.--University of Wisconsin--Milwaukee, M. S.--Marquette University; and Spiro Mehail, B. S.--State Teacher's College, Milwaukee, M. S.-Marquette University. Horvath and Mehail are now associated with the Milwaukee Institute of Technology of the Milwaukee School of Adult,

Vocational and Technical Education, and will enroll to complete their doctoral studies in Educational Policy Studies at the beginning of the second semester, 1967-1968. Both will be engaged in dissertation research related to vocational-technical education, and it is expected that they will provide added leadership to the field of vocational-technical education upon completion of their studies.

Special effort is being made to encourage more applications from students outside Wisconsin. The nature of this field and its qualifications for employment seem both to increase the age of applicants and also to reduce the number who can afford to leave employment to undertake graduate studies.

## VI. CONFERENCES

An important function of the Center is the arrangement and sponsorship of conferences and workshops designed to bring together personnel in vocational and technical education, university faculty members, and federal government officials interested and active in the field. Three such conferences have been held this year, and others are being planned for 1968.

### Curriculum Programs in Action: Their Administration and Evaluation

Our center joined with the Center for Technological Education at San Francisco State College in planning and directing a conference on "Curriculum Programs in Action--Their Administration and Evaluation," on February 15 16, and 17. This conference was devoted to description and discussion of imaginative curriculum projects in Newton, Massachusetts; Pittsburgh, Pennsylvania; the San Francisco Bay area; the Partnership Educational Project of Center Michigan University; the American Industry Project of Stout State University; and the Visual Communication Education Project at Western

registrants from 17 states representing all major regions of the nation. Proceedings of the conference are available from the Communications Service Corporation, 1629 K Street, N.W., Washington D. C. 20006, at a cost of $2.00 per copy.

### The Encouragement of Research in Predominantly Negro Universities

This conference was held on February 23 on the campus of North Carolina College in Durham. The purpose of the meeting was to encourage the preparation and submission of research proposals on manpower and education topics through cooperation between predominantly Negro and predominantly

white institutions in the same or neighboring communities.

Conference participants were addressed by Sylvia McCollum, from the Office of Education, U. S. Department of Health, Education, and Welfare, and Howard Rosen, from the Office of Manpower Policy, Evaluation, and Research, U. S. Department of Labor.

Participants at the conference included faculty members from: Texas Southern University, Houston; Prairie View A & M, Prairie View, Texas; Rice University; The University of Houston; North Carolina College; A & T University of North Carolina; North Carolina State University; Duke University; Virginia Polytechnic Institute; Massachusetts Institute of Technology; and The University of Wisconsin.

Two cooperative inter-racial committees have emerged from the meeting, one in Durham and the other in Houston. These committees have begun work on a proposal for cooperative research on "The Causes of Negro Teenage Unemployment." Funding for the projects is being made available through the U. S. Department of Labor. Pilot projects were expected to be underway by mid-summer.

Proceedings of this conference are available from the Center.

The Education and Training of Racial Minorities, May 11-12, 1967

James Farmer, former director of the Congress of Racial Equality (CORE) and presently a professor of social welfare at Lincoln University in Oxford, Pennsylvania, spoke at the dinner meeting of this conference, which was co-sponsored by the Center and the U.S. Department of Labor, Office of Manpower Policy, Evaluation, and Research.

Participants in the conference included academicians, government officials, and educators from vocational schools and other institutions who have been involved in research in the area of educating and training racial minorities

to meet the demands of today's expanding labor market. The emphasis of the meeting was placed on analytical reports, research findings and project evaluations rather than on general descriptive statements of issues and programs.

Proceedings of this conference are in the process of being published. With this idea of publication in mind, an efforts was made to select speakers and discussants who would make a worthwhile contribution to this area of current concern. Participants were selected from all areas of the United States. The main speakers were: Eli Ginzberg, Director, Conservation of Human Resources, Columbia University; Lamar Jones, Assistant Professor of Economics, Louisianna State University; Vernon Briggs, Assistant Professor of Economics, University of Texas; Walter Fogel, Assistant Professor of Industrial Relations, University of California, Los Angeles; Lester Thurow, Assistant Professor of Economics, Harvard University; Vivian Henderson, President, Clark College, Atlanta; Marvin Feldman, Program Officer, The Ford Foundation; and Herbert Striner, Director of Program Development, The W. E. Upjohn Institute for Employment Research.

Discussants at the conference were: Sylvia McCollum, Program Planning Officer, Department of Health, Education, and Welfare; Henry Cornwell, Professor of Psychology, Lincoln University; Paul Petty, Director, Southwestern Cooperative Educational Laboratory; Hilton Hanna, Executive Assistant, Amalgamated Meat Cutters and Butcher Workmen, Chicago; James Robinson, Program Evaluation Analyst, Office of Economic Opportunity; Louis Ferman, Research Director, Institute of Labor and Industrial Relations, University of Michigan; and Lawrence Howard, Director, Institute of Human Relations, University of Wisconsin--Milwaukee.

The Proceedings of this conference will be available this fall, and will sell for $3.00.

Future Conferences

In the spring of 1968 the Center hopes to host two conferences related to vocational and technical education and training. There has been a growing interest in vocational education and training in penal and other correctional institutions. It has been indicated that the opportunities for employment and advancement of former inmates are greatly enhanced through training programs conducted in these institutions. In light of these, the Center plans to hold a conference on Vocational Education and Training in Correctional Institutions in April 1968. The papers and discussion will consider a variety of topics in this area, including analyses of education and training programs already in effect in such institutions, the economic and social value of the programs, and procedures for establishing new programs.

The Center hopes to be able to sponsor a conference on "Union and Management Interests in Vocational Education." The papers and discussion for the conference will focus on vocational training programs sponsored by unions and companies as well as the views of union and management toward vocational educational training. A planning meeting will be held in Madison to develop plans for this conference with regard to specific topics and speakers. Attending the meeting will be: Otto Pragan, Assistant Director of Education for the AFL-CIO; Joseph Noll, President of Famco Tool Co., Kenosha, Wisconsin; George Howden, Division Engineer of the Wisconsin Telephone Co., Appleton, Wisconsin; Philip Lerman, Secretary-Treasurer of the Lerman Tire Co., Milwaukee, Wisconsin; and Jacob Friedrick of the Milwaukee Labor Council; Gerald G. Somers and J. Kenneth Little; Richard Whinfield Administrative Associate for the Center; and James L. Stern and Jack Barbash, Professors of Economics at the University.

## VII. PUBLICATIONS

A principal objective of the Center's program is the dissemination of research findings in the field of vocational and technical education. The Center has initiated a series of publications, including a professional journal, a newsletter, a more detailed periodic report of Center activities, a reprint series, conference proceedings, research reports, and an assortment of publications describing in detail the acquisitions, bibliographies, and services of the Reference Unit.

### The Journal of Human Resources

The Journal of Human Resources has become a well established publication in the fields of education, manpower, and welfare policies. Six issues have now been published. The Journal was established in 1965 as a medium which gives primary emphasis to the role of education and training, at home and abroad, in enhancing productive skills, employment opportunities and income. It also includes articles on more general manpower, health, and welfare policies, as they relate to the labor market and to economic and social development. In addition to the funds provided for its support by the Center, it has received substantial support from The University of Wisconsin, through the Industrial Relations Research Institute and from the Institute for Research on Poverty which was established at the University in 1966 under a grant from the U.S. Office of Economic Opportunity.

This fall the Journal has a new Editorial Associate, Barbara Dennis, who came to Wisconsin from the Institute of Labor and Industrial Relations, University of Illinois (Urbana). Mrs. Dennis has had extensive experience in editing publications in the areas covered by the Journal. The editor

of the Journal is Gerald Somers. Associated Editors are Walter Fogel, Philip Perrone, and Murray Tucker.

The contents of the four 1967 issues of the Journal are:

VOLUME II, NUMBER 1: "The Iso-Prop Index: An Approach to the Determination of Differential Poverty Income Thresholds," Harold W Watts, The University of Wisconsin; "Careers, Counseling and the Curriculum," Harold L. Wilensky, University of California, Berkeley; "When Should Vocational Education Begin?" A. J. Corazzini, Dartmouth College; "Negro Participation in Apprenticeship Programs," Ray Marshall and Vernon M. Briggs, Jr., University of Texas; "Apprenticeship in the United States: Labor Market Forces and Social Policy," David J. Farber Bureau of Apprenticeship and Training; and Gary Becker's Human Capital: A Review Article, M. W. Reder, Stanford University.

VOLUME II, NUMBER 2: SYMPOSIUM ON MANPOWER THEORY—"The Balance between Supply and Demand for College Graduates," John K. Folger, Commission of Human Resources and Advanced Education; "Current Psychological Theories of Occupational Choice and Their Implications for National Planning," John Holland, American College Testing Program; "The Economics of Scientific and Engineering Manpower," W. Lee Hansen, The University of Wisconsin; "The Adaptation of Education to a Mobile Society," C. Arnold Anderson, The University of Chicago; "Persistence in Engineering and Technical Institute Programs: A Study of Some Nonintellective Concomitants," Aaron J. Miller, Ohio State University, and J. Paschal Twyman, the University of Missouri.

VOLUME II, NUMBER 3: SYMPOSIUM ON RATES OF RETURN TO INVESTMENT IN EDUCATION--"The Rate of Return in Allocating Investment Resources to Education," Theodore W. Schultz, University of Chicago; "An Economic Analysis of Earnings and Schooling," Giora Hanoch, The Hebrew University; "The Private and the Social Returns on Investment in Education: Some Results for Great Britain," Mark Blaug, University of London; "Investment in Education in India," A. M. Nalla Gounden, Delhi School of Economics; "Rates of Return to Schooling in Latin America," Martin Carnoy, U. S. Congress; "Unemployment Classification of Major Labor Areas, 1950-65," George Iden, U. S. Congress; Comments on Job Vacancy Measurement, William S. Peirce, Case Institue of Technology.

VOLUME II, NUMBER 4: THE RETURNS TO GEOGRAPHIC MOBILITY: A SYMPOSIUM--"The Mobility of Labor and the Theory of Human Capital," Hans-Joachim Bodenhöfer, Max-Planck-Institute for Education Research, Berlin; "The Effect of Geographic Mobility on Income," John B. Lansing and James N. Morgan, University of Michigan; "Industry Variations in Geographic Mobility Patterns," Lowell E. Gallaway, Ohio State University; "The Geographic Mobility of Professional and Technical Manpower," Jack Ladinsky, The University of Wisconsin; "The Economic Costs and Benefits and Human Gains and Disadvantages of International Migration," Solomon Barkin Organization for Economic Co-operation and Development Paris; "Aspects of Labor Force Mobility in Latin America," Martin

Carnoy U. S. Congress: "A Note on the Declining Tendency with Age for Investment in Human Capital," Albert Zucker, City College of New York.

Scheduled to appear in 1968 are the following articles:

VOLUME III, NUMBER 1: "The Determinants of Scholastic Achievement--An Appraisal of Some Recent Evidence," Samuel Bowles, Harvard, and Henry M. Levin, Brookings Institution; "Welfare Payments and Work Incentive: Some Determinants of the Rates of General Assistance Payments " Herschel Kasper, Oberlin; "Literacy Training and Job Placement of Hard-Core Unemployed Negroes in Detroit," Thomas H. Patten, Jr., Michigan State University and Gerald E. Clark, Jr., Wayne State University; "Union Interests in Apprenticeship and Other Training Forms," Jack Barbash, The University of Wisconsin; "A Communication, the Health Economics of Cigarette Consumption," Julian L. Simon, University of Illinois.

Tentatively scheduled articles include: "A Model of Choice in an Australian Labor Market," Norman F. Dufty, Perth Technical College, Australia; "Related Instruction: Some Basic Issues," by George Strauss, University of California, Berkeley; "Attrition among Ph.D. Candidates: An Analysis of a Cohort of Recent Woodrow Wilson Fellows," by Joseph D. Mooney, Princeton University; "Interpersonal Attitudes of Teachers and Advantaged and Disadvantaged Pupils," by Albert H. Yee, The University of Wisconsin; "Some Economics of Parole Success," by Robert Evans, Jr., Brandeis University.

In addition to feature articles, each issue of the Journal includes sections on Book Reviews, Briefly Noted (abstracts of newly published books), and a listing of books received by the Journal.

The circulation of the Journal has grown to 1,604 as of September 1967.

## The IRRI Report

During the past year, the Institute and the Center have continued to publish this periodic bulletin, which reports their current activities. For the most part the format of the report remains unchanged. It includes six major sections, covering (1) news from the Institute, (2) news from the Center, (3) a feature article, (4) research in progress in both the Center and the

Institute, (5) abstracts of new publications, including conference proceedings, monographs, additions to the Center and Institute reprint series, and various other bulletins and reports, and (6) recent publications of faculty affiliated with the Center and the Institute.

The issues, published in the autumn and spring, are currently sent to nearly 1,000 individuals and institutions. To date four Reports have been published: October 1965, April 1966, December 1966, and June 1967. The fifth issue is in the press and is scheduled to be out this month.

Newsletter

The Center publishes a newsletter once every three months. This is distributed to approximately 2,000 persons. Its purpose is to keep interested people advised of the Center's continuing expansion and projects. Generally the Newsletter provides persons with short summaries of conferences, the status of graduate study, new research initiated by the Center, brief abstracts of studies completed by Center personnel, and of the development of the reference and retrieval system.

Conference Proceedings

It has been a Center policy to publish the proceedings of all conferences sponsored by the Center. The first such publication to appear was the Proceedings of the Conference on Occupational Data Requirements for Education Planning in the spring of 1966. This publication is not presently available, as the stock has been depleted.

The Proceedings of the Conference on Research in Vocational and Technical Education (described in the Center's second Annual Report) appeared in the spring of 1967 and the Proceedings of the Conference on Research in Apprenticeship Training appeared in the summer of 1967 (described in the Center's second

Annual Report). Both are available from the Center at $3.00 per copy.

The Proceedings of the Conference on Curriculum Programs in Action: Their Administration and Evaluation (see section of the Report on CONFERENCES) is available from the Communications Service Corporation, 1629 K Street. N.W., Washington, D. C. 20006 at a cost of $2.00 per copy.

The Proceedings of the Conference on Research Approaches to the Initiation of New Vocational Programs (described in the Center's second Annual Report) and the Conference on the Encouragement of Research in Predominantly Negro Universities (see section of the Report on CONFERENCES) became available in the summer of 1967. and are available without charge.

The Proceedings of the Conference on the Education and Training of Racial Minorities (see section of this Report on CONFERENCES) will be available in the fall of 1967 at $3.00 per copy.

## The Reprint Series

The following articles are included in the Center's reprint series, initiated in 1965:

W. Lee Hansen, "Human Capital Requirements for Educational Expansion: Teacher Shortage and Teacher Supply," Education and Economic Development, 1965.

William J. Swift and Burton A. Weisbrod, "On the Monetary Value of Education's Intergeneration Effect," The Journal of Political Economy, Volume LXXIII, No. 6, December 1965.

W. Lee Hansen, "Labor Force and Occupational Projections," The Proceedings of the Eighteenth Annual Meeting, Industrial Relations Research Association, December 1965.

Burton A. Weisbrod, "Investing in Human Capital," The Journal of Human Resources, Vol. 1, No. 1, Summer 1966.

Gerald G. Somers, "Government-subsidized On-the-Job Training: Surveys of Employers' Attitudes" reprinted from Hearings before the Subcommittee on Employment and Manpower, 98th Congress, September 1965; February 1966.

Burton A. Weisbrod, "Conceptual Issues in Evaluating Training Programs, Monthly Labor Review, October 1966.

Gerald G. Somers, "Retraining the Unemployed Older Workers," Technology, Manpower and Retirement Policy, edited by Juanita Kreps (The World Publishing Co., 1966).

Glen Cain, W. Lee Hansen, and Burton A. Weisbrod, "Occupational Classification: An Economic Approach," reprinted from Monthly Labor Review, February 1967.

Norman F. Dufty, "Apprenticeship--A Theoretical Model," reprinted from British Journal of Industrial Relations, Vol. V., March 1967.

J. Kenneth Little, "The Occupations of Non-College Youth," reprinted from the American Educational Research Journal, Vol. IV, No. 2, March 1967.

Glenn Cain and Gerald Somers, "Retraining the Disadvantaged Workers," reprinted from Research in Vocational and Technical Education, 1967.

Earlier articles dealing with vocational training were included in the reprint series of the Industrial Relations Research Institute. A list of these can be obtained from the Institute.

Single copies of these reprints are available from the Center without charge.

Other Center Publications

Monographs: In addition to regular publications the Center puslishes related works by members of the staff. Two such publications are:

G. Soundara Rajan, A Study of the Registered Apprenticeship Program in Wisconsin, $2.00. In his study, Dr. Rajan has assembled and analyzed a wealth of detail on the function of the Wisconsin apprenticeship program. It includes the roles of the various participants in the Wisconsin apprenticeship program; statistics on apprenticeship entry, dropout, and completion rates for 1911-63; an analysis of apprenticeship as a labor market device; discussion of a survey taken among current apprentices, apprenticeship dropouts, and employers with emphasis on each group's criticisms of the program and suggestions for improvement; and Dr. Rajan's recommendations for changes in the Wisconsin program. His study is the first comprehensive account of any registered apprenticeship program.

Norman F. Dufty (ed.), Essays on Apprenticeship, $3.00. This is a collection of papers which appears as a supplement to the Proceedings of the Conference on Research in Apprenticeship Training, with a preface by Professor Dufty. Subjects and authors included: "Apprenticeship: An Evaluation of the Need," George Strauss, University of California, Berkeley; "Union Interests in Apprenticeship and Other Training Forms," Jack Barbash, The University of Wisconsin; "A Survey of Wisconsin Building Trades Joint Apprenticeship Committees," Karl Magnusen, The University of Wisconsin; "The Structure of Related Instruction in Wisconsin Apprentice Programs," James Crabtree, The University of Wisconsin; "Apprenticeship--A Theoretical Model," "Recruitment to the Skilled Trades: A Study of a Segment of a Skilled Labor Market," and "A Model of Choice in Labor Markets," Norman F. Dufty, Visiting Professor, The University of Wisconsin.

Research in Progress: A large number of State Departments of Education have developed Research Coordinating Units under a federal grant. The purpose of the "RCU's" is to help develop, promoted and coordinate research related to vocational education in each state.

The Center staff collects the RCU research reports each quarter and summarizes them by state and subject area. The first such report was mailed to each RCU and other interested persons in July. It is the aim of these reports to help the RCU's identify similar current research in other states, thereby enabling them to exchange information on these projects; and to provide information on vocational education research in progress as an aid to other investigators.

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